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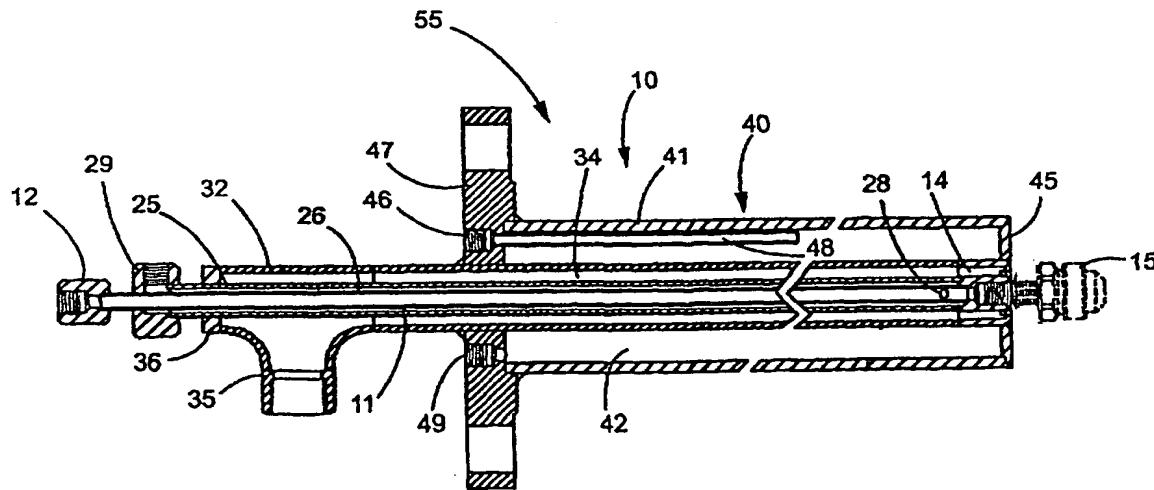
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(54) Title: LANCE-TYPE LIQUID REDUCING AGENT SPRAY DEVICE



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(57) Abstract: A lance-type spraying assembly for directing a reducing agent into a combustion zone or discharging combustion gases for NOx emission control. The spraying assembly including a lance body having an inlet end and a downstream end and a spray nozzle arranged at the downstream end of the lance body. The lance body includes an air passage for connection to an air supply, a liquid reducing agent supply passage for connection to a liquid reducing agent supply and a liquid reducing agent return passage. The liquid reducing agent supply passage communicates with the spray nozzle. The liquid reducing agent return passage communicates with the liquid reducing agent supply passage near the downstream end of the lance body for recirculating a portion of the liquid reducing agent and extends near the liquid reducing agent supply passage along at least a portion of the length thereof in order to help cool the liquid reducing agent therein. The liquid reducing agent return passage is sealed against the spray nozzle. The air passage extends near at least a portion of the liquid reducing agent supply passage in order to help cool the liquid reducing agent therein.